

REMARKS

Applicants have carefully considered the Office Action dated May 3, 2005 and the references set forth therein. Applicants provide this Amendment in a sincere effort to place the application in condition for allowance. Accordingly, reconsideration is respectfully requested.

In the Office Action, the Examiner has objected to the title as not being descriptive of the invention. In order to address the Examiner's concerns, Applicants have amended the title to read, "A plug connector having a rotatable outgoing cable part". As a result of this amendment, Applicants respectfully submit that the title is descriptive and complies with the rules of U.S. Practice.

Claim 3 has been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants have amended Claim 3 in order to provide proper antecedent basis; therefore, Applicants respectfully request that the rejection be withdrawn.

In the Office Action, Claims 1-8, 10-14, 17-19 and 21 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent No. 5,551,882 to Whiteman, Jr., et al. ("Whiteman"). Whiteman disclosed a stackable electrical connector having an insulated housing 5 which holds a plurality of electrical contacts 4. The electrical contacts include receptacles 7 connected to elongated posts 6. The housing 5 has brush contacts 24 which are electrically

connected to the contacts 4. The brush contacts are in constant engagement with circuit traces 10 formed on a circuit board 9. The relative axial position of the housing with respect to the circuit board is fixed as shown in Figures 3 and 9. The circuit board is connected to wires 16 of cable 17.

Applicants have rewritten Claim 8 in independent form by amending Claim 1 to include the features of Claim 8. Applicants have cancelled Claim 8 to reflect the amendment in Claim 1. Applicants respectfully submit that Claim 1, as amended, patentably distinguishes over the references of record.

Amended Claim 1 defines a plug connector including a cable part having a circuit substrate and a contact carrying drum. The contact carrying drum has first plug contacts which are able to be contacted electrically to second plug contacts of a mating plug connector. The contact carrying drum includes first abutment contact faces which, irrespective of the position of the outgoing cable part and the drum, are able to be contacted by second contact faces on the circuit substrate. The contact carrying drum is able to be moved in the direction of its longitudinal axis in relation to an outgoing cable part such that it can be shifted away from the mating plug connector to be connected towards the circuit substrate with the first and second abutment type contact faces being thrust against each other.

As shown in Figure 5 of the present application, the contact carrying drum 12 may be moved along its longitudinal axis 13 in a space indicated by the reference letter "a". This feature

is described in paragraphs [0063] through [0068] of the application. The movement of the drum in a direction of its longitudinal axis, allows the drum to assume an initial position where the drum and the first abutment type contacts are spaced a distance "a" (Figure 5) from the circuit substrate. In this position, the drum may be move without the abutment type contacts engaging each other, thereby reducing wear on these components. When the second plug contacts are inserted in the contact carrying drum, the drum is shifted toward the circuit substrate. When the attachment nut is tightened, the body of the drum is urged against the circuit substrate as shown in Figure 6. The axial movement of the contact carry drum is not taught or suggested by the prior art.

The Examiner has equated the insulated housing structure 5 of Whiteman with the contact carrying drum of Claim 1. As shown in Whiteman Figures 3 and 9, this component is abutted directly against the flat circuit board 9. Accordingly, when the two portions of the connector are rotated, the electrical contacts on the housing 5 and circuit board 9 are always in contact. As set forth in Col. 3 lines 38-42, during rotation the brush contacts 24 maintain continuous electrical engagement with respective acruate traces 10. In contrast, in the present invention as defined in Claim 1, the contact carrying drum moves axially. This allows the drum to be out of contact with the circuit board when the second plug contacts are not secured in the drum. Rotation of the components does not result in contact between the electrical elements so that excessive wear between these components is avoided.

Accordingly, Applicants respectfully submit that Claim 1, as amended, and those claims depending therefrom, patentably distinguish over the references of record.

In addition, Claims 15, 16 and 20 are listed as withdrawn, since they have been deemed to be directed to a different species and were not elected for prosecution. However, since each depend from Claim 1, Applicants respectfully request that upon allowance of amended Claim 1, these claims be reinstated pursuant to 37 C.F. R. §1.141.

Applicants have added new Claims 22 and 23. Claim 22 includes the elements of unamended Claim 1 and Claim 10. Claim 22 defines the contact carrying drum as a 3D- molded interconnect device component. The first plug contacts are at least in part constituted by electrical conductors in the form of a metallized layer formed on the contact carrying drum by molded interconnect device technology and integral therewith. This feature is defined in paragraph [0071] of the application. Claim 22 also defines the first plug contacts as being adapted to electrically contact second plug contacts from a mating plug connector.

In Whiteman, the contacts which engage the mating connector include a plurality of radially spaced electrical contacts 4 having posts 6 and electrical receptacles 7 as shown in Figure 3. These electrical contacts 4 are formed separately from the insulating housing 5. Col. 3, lines 5-15 clearly establish that the housing 5 is a molded plastic construction with cavities 20 to receive the contacts. Figure 5 shows the housing without the contacts. The electrical contacts are therefore inserted into preformed openings of the housing. Accordingly, a separate

component must be manufactured, and a separate manufacturing step must occur in assembly in order to attach the contacts to the housing. There is no teaching or suggestion to form a portion of these electrical contacts as a metal layer integrally formed with the housing 5, as defined in Claim 22.

Furthermore, there is no teaching or suggesting to form the electrical receptacles with the housing using molded interconnect device (MID) technology. MID technology is a process of forming components by which a plastic portion and current carrying metal portions of a connector can be formed together in an integrated manner in a more efficient manufacturing process. There is no teaching in Whiteman to use such technology. In fact, by showing separate components, it specifically teaches away from using MID technology. Accordingly, Applicants respectfully submit that Claim 22 patentably distinguishes over the references of record.

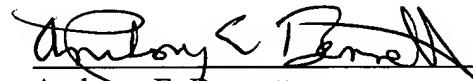
New Claim 23 includes the elements of unamended Claim 1 and Claim 11 and further defines the contact carrying drum as having a groove-like recess and a metal coating being formed on, and integral with, the periphery of at least one of the groove-like recesses of the contact carrying drum. This forms at least one conductor which is part of the first plug contact. The at least one electrical conductor is able to be electrically connected to an inserted second plug contact. As set forth above with respect to Claim 22, Whiteman does not teach using a metal coating formed on and integral with the housing 5 in order to form an electrical connection to the mating plug. To the contrary, Whiteman relies on electrical contacts that are completely

separate from the housing 5. Therefore, Applicants respectfully submit that Claim 23 patentably distinguishes over the references of record.

As a result of the amendments and remarks set forth above, Applicants respectfully request reconsideration of Claims 1-7 and 9-21; consideration of new Claims 22 and 23; and allowance of the application with Claims 1-7 and 9-23.

If the Examiner believes that a telephone interview would be helpful in moving the case towards allowance, she is respectfully invited to contact the Applicants' attorney at the number set forth below.

Respectfully submitted,



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